IN THE CLAIMS

1. (currently amended) In a ~~A~~ system ~~of structural~~ for ~~protection~~ protecting a structure against electrical discharges, ~~specially from lightning strikes, intended to fuel tanks that are fully or partially made of composite material and~~

the structure comprising ~~comprise~~ an outer skin (I) of composite having an exterior surface and opposite surface, an internal part (II) of either composite or metallic material having one side facing the outer skin and another side, and a ~~row of~~ metallic fasteners (III)~~;~~ ~~each~~ having a nut (T)~~, which~~ on a first end and fastening ~~join~~ the outer skin (I) with the internal part (II), and

the ~~protection~~ system ~~consisting of~~ comprising a first metallic mesh (1) having a first side and an opposite side ~~laid up~~ on ~~to the whole~~ substantially all of the exterior surface of the outer skin (I), a second metallic mesh (2) ~~located under~~ on at least part of the first side of the ~~said~~ first metallic mesh (1), a washer (A) ~~placed~~ between the nut (T) and the ~~bottom~~ other side of the internal part (II), and an organic finish (A.O.) that covers ~~the~~ entirely the first side, the exterior ~~external~~ surface ~~of the structure to be protected, including the row of~~ and a second end of the fasteners (III) opposite the nut and at the second metallic mesh, the improvement characterized in that:

- the first metallic mesh (1) is a thin metallic wire mesh laid up and cured simultaneously with the outer skin (I) of composite;
- the second metallic mesh (2) is a ~~thick~~ metallic wire mesh thicker than the thin metallic wire mesh, ~~that covers the row of fasteners (III)~~ overlap~~s~~ing the ~~thin~~ first metallic mesh (1) ~~up to~~ a minimum of 50 mm ~~at both sides~~ from the second end of the

~~row of~~ fasteners (III), and has been put by simultaneously with the curing ~~with~~ of the outer skin (I) ~~of composite~~ and subsequently drill~~inged~~ and countersu~~inking~~ for ~~the~~ installation of the fasteners (III) ~~that allow the attachment of the outer skin (I) to the internal part (II)~~; ~~and~~

- the internal part (II) ~~being~~ is made of metallic material~~; the protection system also includes~~; and
- a metallic countersunk washer (3) ~~installed to the row of fasteners (III) every 200 mm at the~~ bridges a gap ~~existing~~ between the fastener (III) and each of the ~~section built up by the~~ first metallic mesh (1), outer skin (I) and ~~the~~ internal part (II) ~~to be attached~~.

2. (currently amended) A system as in claim 1, characterized in that both the ~~thin~~ first and ~~thick~~ second metallic meshes (1~~)~~ and ~~(~~2) are made of bronze and the composite of the outer skin (I) consists essentially of carbon fibre material and epoxy matrix.

3. (currently amended) A system as in claims 1 ~~and 2~~, characterized in that the washer (A) is made of isolating material if the internal part (II) is composite while the said washer (A) is metallic if the internal part (II) is also metallic.

4. (currently amended) A system as in claims 1 ~~trough 3~~, characterized in that it also includes an isolating ply (F.V.) ~~of fibreglass material or any other isolating material~~ between the outer skin (I) and the internal part (II) if the internal part ~~(II)~~ is metallic.

5. (currently amended) Process for manufacturing the ~~structural protection~~ system ~~against lightning strike~~ as ~~described~~ in claims ~~1 through 4~~ 15, comprising the following steps:

- fabricationg ~~of~~ the outer skin (I) ~~of composite together with the~~ by laying-up ~~of~~ carbon fibre material plies ~~as required up to achieving the thickness specified, during which, in addition to the plies of above noted composite material,~~ and subjecting the resulting lay-up ~~is subjected~~ to a cure cycle simultaneously with:
  - the ~~thin~~ bronze first metallic mesh (1) put onto the external surface of the outer skin (I) and covering the whole external surface[[.]],
  - the ~~thick~~ bronze second metallic mesh (2) put in line with the fastener row and overlapping the ~~thin~~ bronze first metallic mesh ~~at a distance~~ not less than the 50 mm to both sides of the row of the fasteners ~~(III) and in the external face of the outer skin (1)~~, and
  - ~~a~~ the isolating ply (F.V.) ~~of fibreglass or any other isolating material~~ put onto the ~~internal~~ opposite surface of the outer skin (I)~~, covering the required~~ a distance that avoids contact ~~to~~ between the internal part (II) ~~to be fastened onto~~ and the outer skin (I);
- ~~location of~~ fastening the internal part (II) ~~to be fastened~~ as well as drilling and countersinking ~~appropriately practised to~~ the external surface of the ~~inner~~ outer skin (I);
- installationg ~~of~~ the metallic countersunk washers (3) ~~if the internal part (II) is metallic~~ and, subsequently, ~~installation of~~ the fastener (III) with the ~~appropriate~~ washer (A) and nut (T) ~~if applicable~~; and

- ~~application of a coat of exterior~~ applying the organic finish (A.O.) ~~such as a coat of paint material~~.

6. (new) The system as in claim 1, and further comprising other fasteners in a row with the fastener and a second of the fastener within at least 200 mm of the fastener.

7. (new) A system as in claim 6, characterized in that both the first and second metallic meshes (1 and 2) are made of bronze and the composite of the outer skin (I) consists essentially of carbon fibre material and epoxy matrix.

8. (new) A system as in claim 2, characterized in that the washer (A) is made of isolating material if the internal part (II) is composite while the said washer (A) is metallic if the internal part (II) is also metallic.

9. (new) A system as in claim 6, characterized in that the washer (A) is made of isolating material if the internal part (II) is composite while the said washer (A) is metallic if the internal part (II) is also metallic.

11. (new) A system as in claim 7, characterized in that the washer (A) is made of isolating material if the internal part (II) is composite while the said washer (A) is metallic if the internal part (II) is also metallic.

12. (new) A system as in claim 2, characterized in that it also includes an isolating ply (F.V.) between the outer skin (I) and the internal part (II) if the internal part is metallic.

13. (new) A system as in claim 3, characterized in that it also includes an isolating ply (F.V.) between the outer skin (I) and the internal part (II) if the internal part is metallic.

14. (new) A system as in claim 6, characterized in that it also includes an isolating ply (F.V.) between the outer skin (I) and the internal part (II) if the internal part is metallic.

15. (new) A system as in claim 7, characterized in that it also includes an isolating ply (F.V.) between the outer skin (I) and the internal part (II) if the internal part is metallic.

16. (new) A system as in claim 8, characterized in that it also includes an isolating ply (F.V.) between the outer skin (I) and the internal part (II) if the internal part is metallic.

17. (new) A system as in claim 9, characterized in that it also includes an isolating ply (F.V.) between the outer skin (I) and the internal part (II) if the internal part is metallic.

18. (new) A system as in claim 10, characterized in that it also includes an isolating ply (F.V.) between the outer skin (I) and the internal part (II) if the internal part is metallic.

19. (new) A system as in claim 11, characterized in that it also includes an isolating ply (F.V.) between the outer skin (I) and the internal part (II) if the internal part is metallic.

20. (new) Process for manufacturing the system as in claim 19, comprising the following steps:

- fabricating the outer skin (I) by laying-up carbon fibre material plies and subjecting the resulting lay-up to a cure cycle simultaneously with:
  - the bronze first metallic mesh (1) put onto the external surface of the outer skin (I) and covering the whole external surface,
  - the bronze second metallic mesh (2) put in line with the fastener row and overlapping the bronze first metallic mesh not less than the 50 mm to both sides of the row of the fasteners, and
  - the isolating ply (F.V.) put onto the opposite surface of the outer skin (I) covering the required a distance that avoids contact between the internal part (II) and the outer skin (I);
- fastening the internal part (II) as well as drilling and countersinking the external surface of the outer skin (I);
- installing the metallic countersunk washers (3) and, subsequently, the fastener (III) with the washer (A) and nut (T); and
- applying the organic finish (A.O.).